



APR 23 1996

L-96-93
10 CFR 2.201

Mr. James Lieberman
Director, Office of Enforcement
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D. C. 20555

Dear Sir:

Re: St. Lucie Unit 1
Docket No. 50-335
Inspection Report 96-03
Reply to Notice of Violation EA 96-040

Florida Power and Light Company (FPL) has reviewed the subject notice of violation. Pursuant to the provisions of 10 CFR 2.201 and Section 182 of the Atomic Energy Act of 1954, as amended, the reply to the notice of violation is attached. FPL will remit payment of the civil penalty by electronic transfer on or before April 27, 1996.

Very truly yours,

T. F. Plunkett
President - Nuclear Division

TFP/EJB

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, USNRC Region II
Senior Resident Inspector, USNRC, St. Lucie Plant

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Q PDR

Re: St. Lucie Unit 1
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STATE OF FLORIDA)
) ss.
COUNTY OF PALM BEACH)

T. F. Plunkett being first duly sworn, deposes and says:

That he is President, Nuclear Division of Florida Power & Light Company, the Licensee herein;

That he has executed the foregoing document; that the statements made in this document are true and correct to the best of his knowledge, information and belief, and that he is authorized to execute the document on behalf of said Licensee.

T. F. Plunkett
T. F. Plunkett

Subscribed and sworn to before me this

23 day of April, 1996.

Roberta S. Economy
ROBERTA S. ECONOMY
NOTARY PUBLIC, in and for the County of
Palm Beach, State of Florida

My Commission expires _____



ROBERTA S. ECONOMY
MY COMMISSION # CC283823 EXPIRES
June 1, 1997
BONDED THRU TROY FAIR INSURANCE, INC.

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VIOLATION A:

Technical Specification 6.8.1.a requires that written procedures be established, implemented and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A includes operating procedures for the chemical and volume control system and administrative procedures for relief turnover, procedural adherence, and authorities and responsibilities for safe operation.

Operating Procedure No. 1-0250020, Boron Concentration Control - Normal Control, Revision 35, step 8.5.14, requires, in part, that when adding a blend of primary makeup water and boric acid to the reactor coolant system by using the manual mode of operation and a flow path directly to the charging pump suction, that operators monitor the water flow totalizer and close valve V2525 after the desired volume was added.

Administrative Procedure No. 0010120, Conduct of Operations, Revision 79, Appendix D, Crew Relief/Shift Turnover, requires, in part, that, for short term watchstander relief, a turnover be conducted including: general watchstation status, off-normal conditions, and tests in progress.

Administrative Procedure No. 0010120, Appendix M, Procedural Compliance and Implementation, requires, in part, that controlled procedures be implemented and complied with in accordance with the instructions provided in QI 5-PR/PSL-1. Procedure QI 5-PR/PSL-1, Preparation, Revision, Review/Approval of Procedures, Revision 67, Section 5.13.2, provides that all procedures be strictly adhered to and identified that Operating Procedure 1-0250020 was not considered "skill of the trade" and was not to be performed from memory without referring to the procedure.

Administrative Procedure No. 0010120, Appendix E, Notification of Operations Supervisor/FPL Management, requires, in part, prompt verbal notification of the Operations Supervisor for unplanned reactivity changes.

Contrary to the above:

1. On January 22, 1996, at approximately 2:30 a.m., the licensee failed to implement the requirements of Operating Procedure No. 1-0250020 in that Unit 1 operators failed to monitor the water flow totalizer and failed to close valve

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V2525 after the desired volume of primary makeup water was added to the reactor coolant system when using the manual mode of operation and a flowpath directly to the charging pump suction. Specifically, during a planned addition of between 25 and 40 gallons of primary makeup water, operators failed to stop the addition of primary makeup water until approximately 400 gallons were added which resulted in a power increase over 100 percent reactor power.

2. On January 22, 1996, at approximately 2:30 a.m., the licensee failed to implement the requirements of Administrative procedure No. 0010120 in that the Unit 1 operator at the controls conducted an inadequate short term watchstander relief turnover. Specifically the operator failed to include general watchstation status and conditions including the RCS boron dilution that was in progress. As a result, the relief operator at the controls was unaware that a boron concentration dilution was in progress and failed to adequately monitor and control the dilution.
3. On January 22, 1996, at approximately 2:30 a.m., the licensee failed to implement the requirements of Administrative Procedure No. 0010120. Specifically, operators performed Operating Procedure 1-0250020 from memory, without referring to the procedure, and without adhering to the procedure.
4. On January 22, 1996, between 2:30 a.m. and 5:45 a.m., the licensee failed to implement the requirements of Administrative Procedure No. 0010120 in that operators failed to give prompt verbal notification to the Operations Supervisor of unplanned reactivity changes that had occurred. (01013)

RESPONSE A:

1. FPL concurs with the violation.
2. REASON FOR VIOLATION

The root cause of this violation was that routine boron concentration changes to maintain 100 percent reactor power were not treated with the same importance as other reactivity management evolutions. This was particularly true toward the end of core life when frequent, small

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additions of primary water were made to maintain 100 percent power. (Reference FPL letter L-96-61, dated March 6, 1996)

Contributing factors to the violation include the following:

- 1) Cognitive personnel error on the part of the licensed utility operator who initiated the reactor coolant system (RCS) dilution resulted in the failure to properly complete the evolution. The operator initiated the RCS dilution and then left the immediate area after responding to an unrelated control board annunciator.
- 2) The administrative requirements of the Conduct of Operations Procedure regarding watchstander relief, procedure use and management notification were not fully understood or consistently applied by operations personnel.
- 3) St. Lucie Plant's Operating Experience Feedback program did not adequately respond to similar reactivity management events at other facilities. As a result, FPL did not identify routine dilutions as an evolution which required special attention.

3. CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED

- A. The RCS dilution was secured and RCS temperature and reactor power were restored to within the required limits of 549 degrees Fahrenheit and 100 percent, respectively (within approximately 50 minutes), upon discovery of the condition on January 22, 1996.
- B. The Operations Department Supervisor was informed of the event at approximately 0545 on January 22, 1996.

4. CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS

- A. The operator who performed the subject boron dilution was removed from licensed operator duties.
- B. FPL completed a performance assessment for the licensed operator involved in this event and developed a remedial training plan to be successfully completed prior to returning the individual to licensed duties.

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- C. The Operations Supervisor discussed with each Nuclear Plant Supervisor (NPS) the purpose and threshold for providing notification to plant management in accordance with the requirements of the Conduct of Operations Procedure, AP 0010120.
- D. Operations Administrative Procedure, AP 0010120, Conduct of Operations, was revised to provide clearer standards regarding operator attentiveness, watchstation turnover, control room oversight and procedure adherence. These changes include the following:
 - 1. Additional watchstander relief requirements were added to specifically address short term watchstander relief during reactivity changes.
 - 2. Supervisory presence by the licensed Senior Reactor Operator with the control room command function is now required during reactivity changes.
 - 3. Additional guidance was included which specifies that the Reactor Control Operator (RCO) is to remain in the immediate vicinity of the control board during all reactivity changes.
 - 4. The acceptable methodology for procedure adherence during boration or dilution activities was specified.
- E. Reactor operating guidelines were revised to establish normal operation with a reduced Reactor Coolant System cold leg temperature (T-cold) in order to increase the operating margin between the 100 percent T-cold value and the Technical Specification limit.
- F. Management conducted crew briefings with each operating crew to emphasize conservative plant operation and review Institute of Nuclear Plant Operations (INPO) recommendations regarding reactivity management.
- G. Plant management issued a letter to each licensed operator to re-emphasize personal responsibility for reactor safety and to stress the importance of reactivity control and constant attention to detail.

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- H. FPL Quality Assurance is performing an evaluation of the adequacy and effectiveness of the St. Lucie Plant program for transferring lessons learned from industry events. This evaluation will be completed and recommendations forwarded to St. Lucie management by April 30, 1996.
5. Full compliance was achieved on January 22, 1996 with the completion of items 3A and 3B above.

VIOLATION B:

10 CFR 50 Appendix B, Criterion III, Design Control, requires that measures be established to assure that applicable regulatory requirements and the design basis, as specified in the license application, are correctly translated into procedures.

Units 1 and 2 Technical Specifications (TS) 6.8.2 requires that each procedure of TS 6.8.1 be reviewed periodically as set forth in administrative procedures. TS 6.8.1 requires that written procedures be maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Appendix A included operating procedures for the chemical and volume control system. Procedure QI 5-PR/PSL-1; Preparation, Revision, Review/Approval of Procedures, Rev 61; required that all plant procedures shall be reviewed every 36 months.

Section 15.2.4.1 of the Updated Final Safety Analysis Report (UFSAR) states, in part, that during normal operation, concentrated boric acid is mixed with demineralized makeup water... and is automatically introduced into the volume control tank in response to a low water level signal from the volume control. To effect boron dilution, the makeup controller mode selector switch must be set to "Dilute" and the demineralizer water batch quantity set to the desired quantity. When the specific amount has been injected, the demineralizer water control valve is shut off automatically.

Contrary to the above, from approximately January 24, 1976 (before the Unit 1 operating license was issued), through January 23, 1996, the licensee failed to correctly translate the design basis, as specified in UFSAR Section 15.2.4.1, into procedures in that the UFSAR description of the method for adding a mixture of boric acid and demineralized water to the reactor coolant system was not incorporated into the Operating Procedure No. 1-0250020, Boron Concentration Control - Normal Control, Revision 35, for

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St. Lucie Unit 1. Specifically, Operating Procedure No. 1-0250020 described a method for adding a mixture of boric acid and demineralized water to the reactor coolant system (in manual and directly to the suction of the charging pumps) that was different from the method stated in the UFSAR (in automatic and to the volume control tank). Further, the licensee failed to conduct an adequate periodic review of Operating Procedure No. 1-0250020 as required by TS 6.8.2. Specifically, during periodic reviews, the last of which was accomplished on July 11, 1995, the licensee failed to correct the difference between the procedure and the UFSAR. (01023)

RESPONSE B:

1. FPL concurs with the violation.

2. REASON FOR VIOLATION

The root cause for the violation was that an inadequate process existed for ensuring that UFSAR design requirements were translated into plant procedures during procedure development and periodic review.

3. CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED

In accordance with 10 CFR 50.59, a safety evaluation was completed which reviewed St. Lucie Unit 1 and 2 UFSAR requirements regarding boron concentration control. The evaluation provided changes to be included into the Unit 1 and Unit 2 UFSARs which more clearly describe the acceptable methods available for boron concentration control. The boron concentration control operating procedures (1-0250020 and 2-0250020) are consistent with these methods. Additionally, the evaluation determined that operation of the Chemical Volume and Control Systems (CVCS) in accordance with these changes does not constitute an unreviewed safety question and is supported by the UFSAR accident analysis. This action was completed on February 15, 1996.

4. CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS

A. The process for the development and periodic review of plant procedures was changed to improve referencing of applicable UFSAR and Technical Specification (TS) sections in the procedures. Documentation of UFSAR and TS sections reviewed has been included in the process.

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- B. A change was issued to update the Unit 1 and Unit 2 UFSARs to clarify acceptable operation of the Chemical and Volume Control System with regard to boron concentration changes.
 - C. FPL is reviewing the Unit 1 and Unit 2 UFSARs and plant procedures for mutual consistency. This review will be completed by December 31, 1996.
5. Full compliance was achieved on February 15, 1996, with the completion of item 3 above.

VIOLATION C:

10 CFR 50.59 allows the licensee to make changes to its procedures as described in the Safety Analysis report (SAR), without prior Commission approval, unless the change involves, in part, an unreviewed safety question. The licensee shall maintain records of changes in procedures made pursuant to this section, to the extent that they constitute changes in procedures as described in the SAR. These records must include a written safety evaluation which provides a basis for the determination that the change does not involve an unreviewed safety question.

Contrary to the above, on January 23, 1996, the licensee made Temporary Change 1-96-017 to Operating procedure 1-0250020, Boron Concentration Control - Normal Operation, Revision 35, a procedure described in the UFSAR, and failed to include a written safety evaluation which provided a basis for the determination that the change did not involve an unreviewed safety question. Specifically, the licensee added instructions for dilution in manual and directly to the suction of the charging pumps which is contrary to the UFSAR, paragraph 15.2.4.1, which states that boron dilution must be conducted in the "Dilute" mode (such that when the specific amount has been injected, the demineralized water control valve is shut automatically) and described a flowpath into the volume control tank. (01033)

RESPONSE C:

- 1. FPL concurs with the violation.
- 2. REASON FOR VIOLATION

The root cause of the violation was cognitive personnel error by the shift technical advisor (STA) who performed the

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10 CFR 50.59 screening review for the temporary change to procedure 1-0250020, Boron Concentration Control - Normal Operation. The review by the STA determined that the temporary change did not represent a change to a procedure as described in the UFSAR, and therefore that a safety evaluation was not required.

A contributing factor to the violation was a weakness in the process for performing 10 CFR 50.59 screening evaluations. The process did not require that the applicable UFSAR sections reviewed during the screening be documented.

3. CORRECTIVE STEPS TAKEN AND THE RESULTS ACHIEVED

In accordance with 10 CFR 50.59, a safety evaluation was completed which reviewed St. Lucie Unit 1 and 2 UFSAR requirements regarding boron concentration control. The evaluation provided changes to be included into the Unit 1 and Unit 2 UFSAR periodic updates which more clearly describe the acceptable methods available for boron concentration control. The boron concentration control operating procedures (1-0250020 and 2-0250020) are consistent with these methods. Additionally, the evaluation determined that operation of the Chemical Volume and Control Systems (CVCS) in accordance with these changes does not constitute an unreviewed safety question and is supported by the accident analysis. This action was completed on February 15, 1996.

4. CORRECTIVE STEPS TO AVOID FURTHER VIOLATIONS

- A. Additional STA training was conducted to address and clarify the requirements associated with screening procedure changes for 10 CFR 50.59 applicability.
 - B. As discussed under the corrective actions for violation B, the process for procedure development and periodic review was revised to improve referencing of applicable UFSAR and TS sections in the plant procedures.
 - C. The process for performing 10 CFR 50.59 screening relative to procedure changes was revised to require documentation of the UFSAR and Technical Specification sections reviewed during the screening process.
5. Full compliance was achieved on February 15, 1996 with the completion of item 3 above.